

WHAT IS CLAIMED IS:

1. A storage control device comprising:
 - a first I/O control unit including a channel control unit being connected with an information processing device to communicate data and receiving a data I/O request from the information processing device, a disk control unit being connected with one or more HDDs (Hard Disk Drives) storing data and reading/writing data from/to the HDDs according to the data I/O request, a cache memory for storing data communicated between the channel control unit and the disk control unit, and a connection unit interconnecting the channel control unit, the disk control unit and the cache memory to communicate data;
 - a second I/O control unit whose current consumption is approximately equal to that of the first I/O control unit;
 - two or more first power supply devices supplying electric power to the first I/O control unit;
 - two or more second power supply devices supplying electric power to the second I/O control unit; and
 - at least three circuit breakers receiving electric power supplied from outside and supplying the electric power to the first and second power supply devices while interrupting the supply of the electric power when current exceeding a preset level passes,
- wherein:

each of the first/second power supply devices includes a current balancing circuit for equalizing output currents of the first/second power supply devices.

2. The storage control device according to claim 1, wherein:

the electric power supplied from outside to the circuit breakers is AC (Alternating-Current) power, and

the first power supply device includes an AC-DC conversion unit for converting the AC power into DC (Direct-Current) power and thereby supplies the DC power to the first I/O control unit, and

the second power supply device includes an AC-DC conversion unit for converting the AC power into DC power and thereby supplies the DC power to the second I/O control unit.

3. The storage control device according to claim 1, wherein:

the electric power supplied from outside to the circuit breakers is three-phase AC (Alternating-Current) power, and

each circuit breaker interrupts the supply of the electric power of a phase of the three-phase AC power when current of the phase exceeds a preset level, and

the first power supply device includes three AC-DC conversion units corresponding to the three

phases for converting the AC power of each phase into DC (Direct-Current) power and a current balancing circuit for equalizing output currents of the three phases while equalizing output currents of the first power supply devices, and

the second power supply device includes three AC-DC conversion units corresponding to the three phases for converting the AC power of each phase into DC power and a current balancing circuit for equalizing output currents of the three phases while equalizing output currents of the second power supply devices.

4. The storage control device according to claim 1, wherein:

the storage control device comprises a plurality of the first power supply devices not less than the number of the circuit breakers and a plurality of the second power supply devices not less than the number of the circuit breakers, and

the number of the first power supply devices is equal to that of the second power supply devices, and

the circuit breakers supply the electric power to different ones of the first and second power supply devices, and

each of the first/second power supply devices includes a current balancing circuit for equalizing output currents of the first/second power supply devices.

5. The storage control device according to claim 1, wherein:

the electric power from each circuit breaker is supplied to the first and second power supply devices through electric cables that detachably connect the circuit breaker to the first and second power supply devices.

6. A storage control device comprising:

a first I/O control unit including a channel control unit being connected with an information processing device to communicate data and receiving a data I/O request from the information processing device, a disk control unit being connected with one or more HDDs (Hard Disk Drives) storing data and reading/writing data from/to the HDDs according to the data I/O request, a cache memory for storing data communicated between the channel control unit and the disk control unit, and a connection unit interconnecting the channel control unit, the disk control unit and the cache memory to communicate data;

a second I/O control unit whose current consumption is approximately equal to that of the first I/O control unit;

the HDDs;

a first power supply device including three AC-DC conversion units corresponding to three phases of three-phase AC (Alternating-Current) power for converting the AC power of each phase into DC (Direct-

Current) power, the first power supply device supplying the DC power to the first I/O control unit;

a second power supply device including three AC-DC conversion units corresponding to three phases of three-phase AC power for converting the AC power of each phase into DC (Direct-Current) power, the second power supply device supplying the DC power to the second I/O control unit;

at least three circuit breakers receiving the three-phase AC power supplied from outside and supplying the three-phase AC power to the first and second power supply devices while interrupting the supply of the electric power of a phase of the three-phase AC power when current of the phase exceeds a preset level, wherein:

the storage control device comprises a plurality of the first power supply devices not less than the number of the circuit breakers and a plurality of the second power supply devices not less than the number of the circuit breakers, and

the number of the first power supply devices is equal to that of the second power supply devices, and

the three-phase AC power from each circuit breaker is supplied to the first and second power supply devices through electric cables that detachably connect the circuit breakers to different ones of the first and second power supply devices, and

the first power supply device includes a current balancing circuit for equalizing output currents of the three phases while equalizing output currents of the first power supply devices, and

the second power supply device includes a current balancing circuit for equalizing output currents of the three phases while equalizing output currents of the second power supply devices.

7. A control method for a storage control device which is provided with:

a first I/O control unit including a channel control unit being connected with an information processing device to communicate data and receiving a data I/O request from the information processing device, a disk control unit being connected with one or more HDDs (Hard Disk Drives) storing data and reading/writing data from/to the HDDs according to the data I/O request, a cache memory for storing data communicated between the channel control unit and the disk control unit, and a connection unit interconnecting the channel control unit, the disk control unit and the cache memory to communicate data;

a second I/O control unit whose current consumption is approximately equal to that of the first I/O control unit;

two or more first power supply devices supplying electric power to the first I/O control unit;

two or more second power supply devices

supplying electric power to the second I/O control unit; and

at least three circuit breakers receiving electric power supplied from outside and supplying the electric power to the first and second power supply devices while interrupting the supply of the electric power when current exceeding a preset level passes, comprising the step of:

controlling output current of each of the first and second power supply devices so as to equalize output currents of the first power supply devices and those of the second power supply devices.

8. A storage control device comprising:

a first I/O control unit including a channel control unit being connected with an information processing device to communicate data and receiving a data I/O request from the information processing device, a disk control unit being connected with one or more HDDs (Hard Disk Drives) storing data and reading/writing data from/to the HDDs according to the data I/O request, a cache memory for storing data communicated between the channel control unit and the disk control unit, and a connection unit interconnecting the channel control unit, the disk control unit and the cache memory to communicate data;

a second I/O control unit whose current consumption is approximately equal to that of the first I/O control unit;

two or more first power supply devices
supplying electric power to the first I/O control unit;

two or more second power supply devices
supplying electric power to the second I/O control
unit; and

at least three circuit breakers receiving
electric power supplied from outside and supplying the
electric power to the first and second power supply
devices while interrupting the supply of the electric
power when current exceeding a preset level passes,
wherein:

each of the three circuit breakers includes a
current balancing circuit for equalizing output
currents of the three circuit breakers.